

R3/CI-1



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION III  
801 WARRENVILLE ROAD  
LISLE, ILLINOIS 60532-4351

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January 14, 2000

MEMORANDUM TO: James Heller, Senior Allegation Coordinator, EICS  
FROM: *Cynthia D. Pederson*  
Cynthia D. Pederson, Director, DNMS  
SUBJECT: REVIEW OF ANALYSIS RESULTS FOR MERCURY THAT HAD  
BEEN TAKEN OFFSITE - AMS CASE FILE NO. RIII-1999-A-0136  
(COMBUSTION ENGINEERING) (AITS M00-4076)

On January 10, 2000, you forwarded a copy of the sample analysis results involving some mercury that had allegedly been removed from the ABB/Combustion Engineering facility. The specific NRC-identified concern in the allegation management system was that there was unauthorized possession of radioactive mercury by two individuals.

The mercury was obtained from one of the individuals, and forwarded to the licensee for analysis. The results of the analysis determined that the uranium content in the mercury was so low as to be below the exempt concentration values for uranium in other materials (e.g., less than 0.05 weight percent).

Based on these results, we have concluded that the material meets the definition of unimportant quantities of source material specified in 10 CFR 40.13, and as such, could be possessed by anyone without any further restrictions.

Although the initial Allegation Review Board (ARB) held on August 10, 1999, specified that a followup ARB would be scheduled to address the next course of action, it is our recommendation that this case be closed without conducting a followup ARB based on the fact that the material meets the definition of unimportant quantities of source material and there are no regulatory restrictions on its possession.

01-14-00 10:59 RCVD

P-1

**SENSITIVE ALLEGATION MATERIAL**

January 10, 2000

**MEMO TO:** Monte Phillips Chief, Fuel Cycle Branch, DNMS  
**FROM:** J. Heller / A. Kock, Allegation Coordinator  
**SUBJECT:** REVIEW OF ANALYSIS; ALLEGATION NO. RIII-99-A-0136 (COMBUSTION ENGINEERING)

An August 10, 1999 Allegation Review Board directed the Fuel Cycle Branch (FCB) to follow the results of an analysis of material allegedly in the possession of an unauthorized individual and obtained from Combustion Engineering. On October 1, 1999, the FCB received Combustion Engineering's analysis of the material. A follow up allegation review board is necessary to determine the appropriate course of action based on the analysis results.

Action

- Please review the attached document to identify any new safety concerns and/or enforceable items and provide EICS with a memo with the results of your review. The results of your review are due to OAC3 in a memo by January 19, 2000. This date was selected to support the metric to close allegations within 180 days. Please review the attached information to prepare for the ARB.

This memo should state the concerns and/or enforceable items and the regulatory basis for the concerns and/or enforceable items. The memo should be provided in both hard copy and electronic form (e-mail address for the memo is OAC3).

- If there are any new concerns, please make a recommendation if the concerns should be added to the existing AMS file, or if a new allegation file should be opened and a new ARB should be held.
- The memorandum should include the FCB's recommendation for the next course of action on this issue.

Attachment(s): as stated

cc w/o attachment:  
Cynthia Pederson, Director, DNMS  
AMS File No. RIII-99-A-0136

DATE:

10-1-99

REFERENCE:

TO:

Monty Phillips (WRC)630-515-1255

FROM:

NUMBER OF  
PAGES TO  
FOLLOW:

ABB Combustion Engineering Nuclear Fuels

Bill Sharkey

Monty the following lab report provides the radioactivity results for the Hg alleged to have come from this facility.

Bill

ABB Combustion Engineering Nuclear Operations, Fuel Operations  
3300 State Road P  
Festus, MO 63028

Telephone: (314) 937-4691  
(314) 296-5640

Extension:

399

Fax: (314) 937-7001



# Outreach Laboratory

11 North Aspen  
Broken Arrow, OK 74012  
(918) 251-2515  
Fax (918) 251-0008

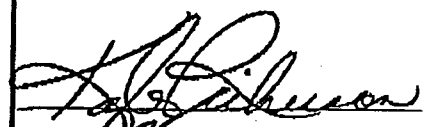

Client: ABB Combustion Engineering  
Client Project:  
Lab Number: 991021  
Date Reported: 9/23/99  
Date Received: 9/2/99  
Page Number: 1 of 1

## Analytical Report

Method	Result	Units	DL	Prep Date	Analysis Date	Analyst
<b>Lab ID: 991021-01</b>						
<b>Client ID: MS-1</b>						
<b>Date Sampled: 8/12/99 1:15:00 PM</b>						
<b>Matrix: Other</b>						
<b>Radiochemical Analyses</b>						
Uranium-238	LANL ER290 M	0.241 +/- 0.068	pCi/g	0.097	9/8/99	9/16/99 RE
Uranium-235	LANL ER290 M	0.186 +/- 0.049	pCi/g	0.062	9/8/99	9/16/99 RE
Uranium-234	LANL ER290 M	1.82 +/- 0.124	pCi/g	0.094	9/8/99	9/16/99 RE

## QC Report

Parameter	Blank	LCS	LCSD		DDP	MS	MSD		Date
		%REC	%REC	RPD	RPD	%REC	%REC	RPD	
Uranium-234	0.3+/-0.4	91.8			4.0	88.6			9/13/99
Uranium-238	0.4+/-0.3	120.0			45.6	109.0			9/13/99

QA Approval:   
Lab Approval: 

BDL = Below Detection Limit

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Combustion Engineering, Inc.  
ABB CENO Fuel Operations  
P.O. Box 107/3300 State Road P  
Hematite, MO 63047  
FEMA, MO 63028

CHAIN OF CUSTODY

CONTAINER TYPE CODES: PL = PLASTIC; GC = GLASS, CLEAR; GA = GLASS, AMBER							
CONTAINER PRESERVATIVE CODES: F = FILTERED; H = HYDROCHLORIC ACID (HCL); I = ICE; N = NITRIC ACID (HNO <sub>3</sub> ); O = OTHER/SPECIFY; S = SULFURIC ACID (H <sub>2</sub> SO <sub>4</sub> )							
SOURCE CODES: DW = DRINKING WATER; MA = METALLOGRAPHIC ACID; UO = USED OIL/SPECIFY; W1 = WASTEWATER OUTFALL #001; W2 = WASTEWATER OUTFALL #002; W3 = WASTEWATER OUTFALL #003; WT = WASTEWATER TREATMENT SYSTEM							
SAMPLE #	SAMPLE TYPE GRAB COMP		CONTAINER TYPE SIZE PRES		SOURCE	COLLECTION DATE: TIME:	ANALYSES
MS-1	X		PL	120cc	—	UNK DATE: 8/2/99 TIME: 1315	gross uranium (KAP) Isotopic Uranium
						DATE: TIME:	
						DATE: TIME:	
						DATE: TIME:	
						DATE: TIME:	
						DATE: TIME:	
						DATE: TIME:	
SAMPLERS NAME:		SAMPLERS SIGNATURE:		RELINQUISHED BY:		RECEIVED BY:	DATE: TIME:
				[Signature] 8/3/99 via UPS		Kayla Reckman	9/2/99 0910
COMMENTS: Sample contains Mercury from an unknown source, and is secured with seal CE-H 20338. Refer any questions to R.W. Shockey at 630-937-4691 x399. Sign and return chain of custody form upon receipt.						LABORATORY: Ron Edison Outreach Laboratory 311 North Aspen Broken Arrow, OK 74012	

Fax 314-937-7955

09/17/21